New to Credit from Alternative Data



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Table of Contents

I. The Benefits of Alternative Data 6

A. America's Credit Invisibles 6

B. Redefining Credit 7

II. Assessing risk using non-traditional data in new to credit consumer files 9

III. How do new to credit consumers cope with increased credit access? 17

IV. How do different segments perform? 18

V. How does this affect lender portfolio? 20

VI. Conclusion 21

Abstract

This report highlights the findings of two previous PERC studies, Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data and You Score, You Win: the Consequences of Giving Credit Where Credit is Due. This report specifically focuses on the new to credit consumer population and how their ability to obtain credit is increased through the reporting of alternative data. Substantial research supports the premise that alternative data tradelines help to incorporate a class of credit underserved consumers into mainstream finance by providing enough data to achieve a credit score. New PERC research shows that using alternative data in underwriting does not negatively affect consumer credit scores over time, and does not lead to above average levels of over-extension in the new-to-credit population. Additionally, PERC research shows that the inclusion of alternative data in credit files is most likely to help minority and low-income consumers achieve credit scores and obtain access to affordable mainstream credit, a key step in the asset building process.



I. The Benefits of Alternative Data

A. America's Credit Invisibles

An estimated 35-54 million Americans are currently outside the credit mainstream due to having a thin credit file or no credit file at all.¹ These credit underserved are disproportionately young adults who have yet to establish a credit history, immigrants with little credit history from their home countries, the elderly, including divorcees or widows who previously enjoyed access to credit through their spouse but have not established their individual credit history, ethnic minorities, low income earners and those who simply distrust the credit system². These consumers are disadvantaged in accessing responsible, affordable credit due to insufficient payment information available to assess their credit risk. Given insufficient data, the default assumption of lenders in that no score equals high risk. Such applicants are almost always rejected.

Many such people are low-risk, active consumers that regularly pay rent, utility, and mobile phone bills. However, non-financial payment information is rarely reported to the consumer credit bureaus. When it is reported, it is overwhelmingly just the late payment, default, or collections information.

The credit system in the United States has evolved so that loans are priced according to a borrower's individual risk (risk-based pricing) and to a borrower's credit capacity. This credit system relies on credit bureau data to assess credit worthiness. Consequently, a credit "Catch-22" exists in America: one must have credit to get credit. This is particularly true following the credit crisis. Individuals must first show that they are low risk before they can access mainstream credit at reasonable prices (fees and interest rates).

¹ Turner et al. (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* Political and Economic Research Council and The Brookings Institution Urban Markets Initiative, 2.

² Maas, Ericca. (2008) "Credit scoring and the credit-underserved population" The Federal Reserve Bank of Minneapolis. (16 Sep 2008) Available: http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=2452 .

The inability to access affordable mainstream credit is a major problem for many Americans. Consumers without a credit history are unknown entities. The lack of information about these consumers leads them to be classified as an unacceptable risk to financial institutions, just as consumers who have demonstrated irresponsible financial habits are unacceptable risks. The untested consumers are themselves forced to assume risk through irresponsible and expensive forms of credit. Without access to mainstream credit these consumers fall into a class which must look to check cashing services, payday loans (with effective interest rates up to 500%³), and predatory lenders to gain access to credit. These forms of credit are not only risky to the consumer, but expensive due to excessive interest rates and fees that those within the mainstream credit system do not experience. The Brookings Institution's Metropolitan Policy Program reports that more than 4 million low-income consumers pay higher auto loan and mortgage interest rates, showing that there is a monetary cost associated with having a low income and no credit file information⁴. These additional costs could be alleviated through reinforcing the information in credit files with alternative data.

B. Redefining Credit

In order to include the 35-54 million Americans who aren't able to access affordable credit, the definition of credit must not be confined to traditional forms. In fact, many Americans who find themselves excluded from mainstream credit are active participants in non-traditional credit systems, such as utility and telecom services. Nearly all households in the US have electricity and a telephone, and a majority have cable television⁵. Such services are extended to consumers prior to their payment, and therefore are essentially extended by a utility or telecom company in the form of credit.

This system of credit extends a service with the expectation of repayment, similar to how a traditional credit institution extends assets with the same expectation. The difference is that in this non-traditional credit system, consumers are not typically rewarded for their timely repayments, but are commonly penalized for late payments. By reporting alternative data⁶ to credit bureaus, utility and telecom companies can allow new to credit⁷ consumers to build a credit history without

³ Op Cit. (Turner)

⁴Fellows, Matt. "High Cost of Being Poor: Reducing the Costs of Living for Working Class Families" The Brookings Institution, October 2006.

⁵National Cable and Telecommunications Association, Industry Overview. www.ncta.com/Docs/PageContent.cfm?pageID=304. Source: Nielsen Media Research. As cited in: Turner, Michael. Giving Underserved Consumers Better Access to the Credit System: The Promise of Non-traditional Data Information Policy Institute, July 2006.

⁶Alternative data is derived from all payment history data in the non-traditional credit sector.

⁷New-to-credit consumers are predominantly thin-file or have no trades on file. These consumers have low credit scores or are unscorable due to the lack of information in their file.

the necessity of borrowing, thereby overcoming the "credit Catch-22". With a credit history, the door will be opened for millions of credit underserved Americans to responsible and affordable traditional credit.

How quickly can this happen? Almost instantly. That is because there is a clear harmony of interests on this issue among all stakeholders lenders, data furnishers, borrowers, and the government. Some major banks are already underwriting loans using alternative data when available. Given the current credit crunch, accessing new data to improve their ability to accurately assess risk and extend new loans is a business imperative. As many credit scoring models only need one payment history to produce a credit score, alternative data has the potential to virtually eliminate no-file consumers⁸. Utility and telecom services that report payment information also benefit, because customers are more likely to pay when they know that their credit file is impacted by their financial habits. A recent PERC study, *Fully Reporting Non-Financial Payment Data: Impact on Customer Payment Behavior and Furnisher Costs and Benefits*, includes a consumer payment behavior survey and finds that approximately 50% of consumers are "much more likely" or "somewhat more likely" to prioritize the payment of utility and/or telecom bills if they knew the information was reported to credit bureaus⁹.

Borrowers in need of credit now will have more and better choices. Paying less for credit, and having access to greater amounts should enable asset building and wealth creation. And from the perspective of a government coping with a financial crisis and spreading recession, enabling the reporting of alternative data to credit bureaus is one tool that can be used to increase credit access and stimulate growth – and it won't cost taxpayers a penny.

⁸ Turner, Michael and Amita Agarwal. *"Using non-traditional data for underwriting loans to thin-file borrowers: Evidence, tips, and precautions"*. Journal of Risk Management in Financial Institutions. 1:2, pp.165-180. Available: http://www.infopolicy.org/files/downloads/ pp165-80.pdf.

⁹ Turner et al., (2008) *Fully Reporting Non-Financial Payment Data: Impact on Customer Payment Behavior and Furnisher Costs and Benefits* PERC. For additional resources see Afshar, Anna (2005) Uses of Alternative Credit Data Offers Promise, Raises Issues New England Community Developments Issue 1, Third Quarter 2005.



II. Assessing risk using nontraditional data in new to credit consumer files

Can a positive history of repayment in the non-traditional credit sector predict payment habits for traditional credit? That is, can alternative data be used in credit scoring models to accurately assess credit risk? Further, what are the impacts on credit access? And how much promise does this hold for new to credit borrowers? These are empirical questions that can only be answered with empirical evidence.

In 2006, PERC and the Brookings Institution released Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data. This study of eight million credit files from TransUnion, a leader in collecting such data, focused on thin-file consumers and, in particular, thin-file consumers that were deemed "unscoreable" due to the lack of trade information in their credit files. Many of these thin-file consumers could likely be deemed new to credit, or soon to be new to credit. The analysis and findings from this research provide a first-time look into the changes in borrowers' credit profiles as a result of the inclusion of alternative data in consumer credit files. That is, does having a non-traditional tradeline result in credit access? And do the new borrowers become over-extended as a result of easy credit?

In the first such analysis of its kind, PERC's 2006 socio-demographic examination shows which segments of the population are most likely to have thin credit files. This data shows that ethnic minorities, lower-income consumers, the young and the old are more likely to be thin-file borrowers¹⁰.

¹⁰ Turner et al., (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* PERC and the Brookings Institution Urban Market Initiative. The Center for Financial Services Innovation's (CFSI) recent analysis of the demographic makeup of the underbanked are consistent with PERC's earlier findings for the makeup of the thin-file population, see http:// www.cfsinnovation.com/doc.php?load=/underbankedconsumerstudy_factsheet_june82008_final1cw.pdf. Figures 1 and 2 below show the percentage of socio-demographic groups (ethnicity and income groups) in the Give Credit Where Credit is Due analysis that are thin-file (fewer than three traditional tradelines).



FIGURE 1: Thin-file Rate by Socio-demographic Group (Utility tradelines sample)

Source: Turner et al., (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* PERC and the Brookings Institution Urban Market Initiative.



FIGURE 2: Thin-file Rate by Socio-demographic Group (Telecom tradelines sample)

Source: Turner et al., (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* PERC and the Brookings Institution Urban Market Initiative.

Many concerns have been raised over how a population that had traditionally been unable to access affordable credit would react to new credit opportunities. PERC's research should be utilized as a baseline study, an initial glimpse into what one should expect for those taking advantage of non-traditional tradelines and becoming new to credit consumers. Most basically, *Give Credit Where Credit is Due* examines whether alternative data is useful is risk assessment. The trade-off between delinquency rates and acceptance rates is one way the usefulness of data can be evaluated. The figures below show the change in number of delinquencies experienced among groups of consumers selected when alternative data is included in determining credit-worthiness and when it is not. PERC's research finds that for each targeted acceptance rate (size of the group selected), serious payment delinquencies¹¹ fell when the alternative data was included with traditional data and used to assess credit risk. This provides general evidence that alternative payment data can improve the ability of scoring models to predict who will and will not have serious delinquencies. In turn, this enables banks to broaden credit access without taking on undue risk. Credit is made fairer and smarter simultaneously.

FIGURE 3: Serious Delinquency Rates by Targeted Acceptance Rates Using Credit Scores With and Without Utility Data (VantageScore Model)



Source: Turner et al. (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* Political and Economic Research Council and The Brookings Institution Urban Markets Initiative

¹¹Delinquency is defined as a payment that is 90 days or more overdue.

The ability of credit grantors to better predict credit-worthiness provides security for the credit industry because it guards against adverse selection¹². As the rates of delinquency decrease, the costs associated with bad loans are lessened. This means banks will have lower provisioning/capital adequacy requirements, which translates into more money to lend. That is, alternative data not only makes lending fairer and smarter, but also more profitable to lenders. Good news in today's economy.



FIGURE 4: Delinquency Rates by Targeted Acceptance Rates Using Telecommunications Alternative Data (VantageScore Model)



Source: Turner et al. (2006) *Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data* Political and Economic Research Council and The Brookings Institution Urban Markets Initiative

¹²Adverse selection occurs when lenders have limited information upon which to base their loan decisions and select customers who are unable to meet credit obligations. See Hunt, Robert M. (June 2005) A Century of Consumer Credit Reporting in America Federal Reserve Bank of Philadelphia Working Paper 05-13; www.philadelphiafed.org/files/wps/2005/wp05-13.pdf Findings from *Give Credit Where Credit is Due* shows evidence of the extent to which new to credit consumers can benefit from the reporting of alternative data¹³. Specifically, thin-file consumers with utility or telecom payment histories witnessed greater increases in credit limits over a yearlong observation period relative to thinfile consumers with no such additional payment information. On average, the limits increased by \$2,500 for those consumers with utility data and by \$1,100 for those with telecom data compared to a decline of \$382 for thin-file consumers without additional alternative data. It is likely that the "thickening" of credit files with non-financial payment data enabled this improved credit access¹⁴.

FIGURE 5: Distribution of Credit Scores for All Consumers in Sample With and Without Utility Payment Data and for those Consumers with Only Utility Payment Data



Source: Turner, Michael and Amita Agarwal. *"Using non-traditional data for underwriting loans to thin-file borrowers: Evidence, tips, and precautions."* Journal of Risk Management in Financial Institutions. 1:2, pp 171. Available: http://www.infopolicy.org/files/downloads/pp165-80.pdf.

 ¹³ Turner et al. (2006) Give Credit Where Credit is Due: Increasing Access to Affordable Mainstream Credit Using Alternative Data Political and Economic Research Council and The Brookings Institution Urban Markets Initiative, 23.
¹⁴ Op. cit., 21.



http://www.infopolicy.org/pdf/alt-data.pdf

Perhaps the most substantial contribution of *Give Credit Where Credit is Due* is its preliminary assessment of the risk associated with extending traditional credit to this class of consumers. One of the key findings of this study shows that when alternative data is considered in determining risk, the credit risk profiles of mainstream consumers is similar to that thin-file and no-file consumers, but for super-prime ¹⁵.

As Figure 5 shows, when alternative data is included in credit files, and used in credit scoring, the share that is unscoreable falls from about 12 percent to 2 percent and the share with scores between 501 and 800 rises from about 50 percent to 60 percent. As the black line shows, many of the 10 percent of the sample that becomes scoreable with the utility data, because they only have utility data, gain scores that put them in the middle of the score distribution. That is, a sizeable share is shown not to be high risk and gain access to mainstream credit from their utility payment information. In fact, another key result of *Give Credit Where Credit is Due* is that if a target default rate of 3% is chosen, a lender could extend credit to an additional 10 percent of the sample if utility and telecom payment data were included in generating credit scores.

¹⁵ Op. cit.

Figure 6 displays results comparing model performance (KS statistic) when different data are used to predict and outcomes are predicted over different data. (1) and (2) are KS statistics relative all thin-file consumers in the sample with at least one telecom account reported. (3) and (4) are KS statistics relative all thin-file consumers in the sample with at least one utility account reported. So, comparisons are made to payment predictions among consumers with fewer than three traditional accounts and at least one alternative account. Model performance when predicting payment outcomes amongst thin-file consumers appears similar to the performance when using alternative account histories to predict alternative account payment outcomes or alternative *and* new account payment outcomes.

FIGURE 6: Predictability of Serious Delinquencies Using Alternative Data (VantageScore Model, KS for Thin-file consumer = 1.00)



Source: Previously unpublished findings from *Give Credit Where Credit is Due*

15

Since the groups of consumers in the comparisons are different, one should not extrapolate too much from these results, such as slightly better predictions can be made from some types of consumers with some types of data. What can likely be safely taken from this is that model performance appears to be roughly comparable across groups and that alternative data appears to be predictive for no credit and new to credit consumers. Whether alternative data is as predictive as traditional data or how predictive the data is relative to traditional data are questions that require further investigation (likely to be carried out by lenders interested in determining how exactly alternative data can be optimally used when extending credit to those new to credit). Nonetheless, these findings combined with (a) regression and correlation analysis and (b) the thin-file and general KS calculations detailed in Give Credit Where Credit Is Due provides strong evidence that alternative data is predictive of payment outcomes in general, and for the subset of consumers that are thin-file and new to credit¹⁶.

These results provided the basis for PERC's 2008 follow-up study, *You Score, You Win*: The Consequences of Giving Credit Where Credit is Due¹⁷, in which the payment behavior of new to credit consumers is examined as additional credit lines are extended to them. That study examines the ways in which consumers respond to new credit and the longer term effects of using alternative data.



¹⁶See pages 28 and 29 of *Give credit Where Credit Is Due*.

¹⁷ Turner et al. (2008) You Score, You Win: The Consequences of Giving Credit Where Credit is Due" PERC.

III. How do new to credit consumers cope with increased credit access?

A recurring concern for the new to credit consumer class is their vulnerability to over-extension, which may result in defaulting on loans, or worse. *You Score, You Win* establishes that new to credit consumers who are aided by alternative data open new accounts at a much higher rate than do thinfile consumers with no alternative data trade lines¹⁸. The PERC study sample showed increased access to credit and a slight overall increase in credit score for new to credit consumers whose score was calculated using alternative data¹⁹. This is the known shortterm effect of the use of alternative data. *You Score, You Win* examines the impacts of using alternative data upon credit scores over time.

This study compared credit scores and changes in credit scores over a one year period for two groups of consumers. One group had only alternative data prior to March 2005 and subsequently opened one or more new accounts. The other had only alternative data prior to March 2003 and subsequently opened a new account. Since we have scores for these groups in March 2006, the first group had less than a year of experience with new accounts and the second group had one to three years of experience with new accounts. This provided the first quantitative results demonstrating that the use of alternative data not only helps new to credit consumers establish a credit history and access affordable mainstream credit, but also that for a majority their scores actually *increase* over time. This and the earlier study leads to three major findings:

- » Alternative data enables an outcast class of consumer to establish a credit history without taking on debt in order to gain access to credit.
- » Using alternative data as an input in determining risk provides enough information for creditors to make good choices in determining creditworthiness for some types of credit.
- » Consumers are not becoming over-extended through offers of new credit. The patterns of payment established by consumers in the non-traditional sector are indicative of consumer behavior in the traditional credit sector.

 $^{^{\}rm 18}$ Tradelines are defined as accounts contained in a credit file .

¹⁹ Turner et al. (2008) You Score, You Win: The Consequences of Giving Credit Where Credit is Due" PERC.

IV. How do different segments perform?

Figures 7 and 8 reveal that as consumers with only alternative data in their credit file open new accounts that their credit scores tend to rise over time. This appears to be the case for all ethnic and household income groups examined, except for those with household incomes over \$99,000. For this segment there appears to be virtually no difference in credit scores between the groups. These results provide no evidence for the concern that those who are new to credit via alternative data would, on average, experience increased financial and credit difficulties over time. Though not shown, additional results from *You Score, You Win*, reveals that those in Group 1 had approximately the same credit score prior to opening the new account.²⁰

FIGURE 7: Average Score Difference Between Groups with Different Lengths of Experiences Being New to Credit, by Ethnicity²¹



Source: Turner et al. (2008) "You Score, You Win: The Consequences of Giving Credit Where Credit is Due" PERC, 24.

²⁰ The average score prior to opening the new accounts was lower by less than a point.

²¹ Group 1 are consumers with only alternative trades prior to March 2005 that subsequently opened an additional trade between March 2005 and March 2006.

Group 2 are consumers with only alternative trades prior to March 2003 that subsequently opened a traditional trade between March 2003 and March 2005.



A third group looked at in *You Score, You Win* was consumers who had alternative data and only one traditional payment history for over three years. The average credit score for this group was 660, about 23 points greater than the average for Group II. We conclude that for consumers who have only alternative data and subsequently open a new traditional account, there appears to be no immediate decline in their credit score and over time their credit scores appear to rise. Only a more controlled experiment following the same group of consumers over time could determine why this is occurring. Perhaps the longer credit history improves their score or perhaps the different groups examined have underlying differences (the groups with the more experience may be older on average). Nonetheless, we find no evidence that gaining access to mainstream credit via alternative data on average harms consumers. On the contrary, the access itself combined with score changes over time suggest that, on average, consumers benefit.





Source: Turner et al. (2008) "You Score, You Win: The Consequences of Giving Credit Where Credit is Due" PERC, 24.



V. How does this affect lender portfolio?

Give Credit Where Credit is Due establishes that on the whole, the use of alternative data in the credit scoring rubric does not worsen credit scores for most borrowers in the short-term. The key benefit is that many who were unscoreable became scoreable, and many received prime scores. And the scores that incorporated alternative data were more predictive of payment outcomes -- that is, outperformed -- the scores generated without alternative data. Using the alternative data would allow lenders to increase the size of their portfolios, reduce delinquency rates, or some combination of the two. In short, alternative data enables lenders to better assess consumer risk and make better lending decisions. You Score, You Win shows that the use of alternative data also does not, on average, worsen credit scores over time. This suggests these consumers are not becoming overextended. The evidence shows that these consumers are able to leverage their new scores into mainstream credit access. This suggests that over the longer term, consumers gaining access to credit via alternative data are not becoming increasingly overextended or experiencing increasing payment and credit difficulties. Rather, credit scores tend to rise over time for those who access credit based on alternative data.

Taken together these results imply that by using alternative data in underwriting, lenders can extend credit to many that would have previously been excluded, make better lending decisions for thin-file consumers in general, and at the same time not fear long-term negative impacts on their portfolios.

Whenever any new approach is taken in lending, it is prudent to first thoroughly test the new approach. And we certainly recommend the usual sorts of lending analysis as are highlighted for the case of using alternative data in Using non-traditional data for underwriting loans to thin-file borrowers: Evidence, tips, and precautions²².

²² Turner, Michael and Amita Agarwal. "Using non-traditional data for underwriting loans to thin-file borrowers: Evidence, tips, and precautions". Journal of Risk Management in Financial Institutions. 1:2, pp.165-180. Available: http://www.infopolicy.org/files/downloads/pp165-80.pdf



VI. Conclusion

Given the current credit crisis, PERC's research on alternative data identifies timely opportunities for both the underserved consumer market and lenders. Lenders will be able to use non-financial information to extend credit to the financially excluded. A Fair Isaac Corporation estimate predicts that if just 3% of the underserved market is accessed via the risk information that alternative data provides, the benefit to lenders would be substantial, equaling approximately \$2.3 billion for mortgage lenders, \$750 million for automobile lenders, and \$113 million for credit card issuers²³. If GE Money's estimate that 40% of the thin-file/ no-file population can be extended credit profitably using current credit instruments, this would mean \$30.67 billion for mortgage lenders, roughly \$10 billion for automobile lenders, and \$1.5 billion for credit card issuers²⁴.

The real beneficiaries, however, are the credit underserved. With access to affordable and responsible credit, new to credit consumers are able to build assets. Those financially underserved consumers who have a positive payment records in non-financial obligations will have the ability to access affordable credit. Importantly, this can be done without having to take on credit. It enables individuals to break free from the "credit Catch 22" of having to have credit experience in order to qualify from credit.

Additionally, consumers who do not pay on time are protected from receiving offers of credit that would cause them financial hardship. That is, fully reporting non-financial payment obligations to credit bureaus and CRAs offers both compelling consumer benefits—access to affordable mainstream credit—and powerful consumer protections—credit offers that match a borrower's capacity to repay.

²³Maas, Ericca. (2008) "Credit scoring and the credit-underserved population" The Federal Reserve Bank of Minneapolis. (16 Sep 2008) Available: http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=2452.

²⁴ These figures are derived by multiplying FICO's estimates based upon 3% of the underserved These figures are derived by multiplying FICO's estimates based upon 3% of the underserved population by 13.333 to adjust for GE Money's estimate that 40% of the thin-file/ no-file population could qualify for credit using existing credit instruments. GE Money estimate from transcript of event at Brookings Institution titled "Extending Credit: Helping Americans Build Solid Financial Futures." Downloaded from: http://www.brookings.edu/~/media/Files/events/2007/0109metropolitan%20policy/20070109.pdf

Widespread reporting of non-financial payment obligations to credit bureaus and CRAs is much needed in the wake of the recent US financial crisis whereby various parties either misused or failed to use credit information appropriately for assessing risk. Broadening the quantity of verifiable payment data is a credit file should go a long way toward making lending broader, faster, and smarter. Reporting alternative data to consumer credit bureaus and CRAs is not a magic bullet solution to today's credit crunch and financial crisis, but it one powerful tool that can be used to repair and rebuild a devastated retail credit sector.



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